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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,583	12/22/2003	Steven Allen Carlson	1141.011	7979

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Attn: Intellectual Property Department
Optodot Corporation
Suite 305
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Allston, MA 02134

EXAMINER

TRA, TUYEN Q

ART UNIT PAPER NUMBER

2873

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/743,583	Applicant(s) CARLSON, STEVEN ALLEN	
	Examiner Tuyen Q. Tra	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40, 42-44 and 49-66 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29-40, 42-44 and 49-54 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-26, 55-58 and 61-66 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 27, 28, 59 and 60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground of rejection.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 2, 16-18 and 57 recites the broad recitation "infrared region from 700nm-1700nm", "700nm-2000nm", "2000nm-3000nm" and "above 3000nm", and the claims also recites in independent claims "1250nm-1700nm" which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 56, 57, 65 and 66 are rejected under 35 U.S.C. 102(b) as being anticipated by Mihara et al. (U.S. Pat. 5,482,822 A).

Mihara et al. discloses an infrared-absorptive compound and optical recording medium making use of the same comprising of an infrared reflective layer comprises an organic radical cation compound, which redical cation compound exhibits a reflectance in the infrared region from 1250 nm to 1700 nm (col. 136, lines 43-45).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 6-8, 55, 58 and 61-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mihara et al. (U.S. Pat. 5,482,822 A), as applied to claim 1 above, in view of Kitayama et al. (US Patent 6,475,590).

a) With respect to claims 3 and 58, Mihara et al. discloses an infrared-absorptive compound and optical recording medium making use of the same comprising of an infrared reflective layer comprises an organic radical cation compound, which redical

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cation compound exhibits a reflectance in the infrared region from 1250 nm to 1700 nm (col. 136, lines 43-45).

However, Mihara et al. does not disclose radical cation is a salt of an aminium radical cation. Within the same field invention, Kitayama et al. teach of an aminium salt compound with teaching of aminium salt used in radical cation compound.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the optical device with radical cation compound such as disclosed by Mihara et al., with aminium salt compound with teaching of aminium salt used in radical cation compound such as discloses by Kitayama et al., for purpose of recording optical medium.

b) With respect to claims 6-8 and 61-63, Kitayama et al. further discloses wherein the thickness of the reflective layer is 0.1 to 0.3 microns; wherein the thickness of the reflective layer is 0.2 to 8 microns; wherein the thickness of the reflective layer is 0.4 to 1 micron (col. 9, lines 50-53).

c) With respect to claims 55 and 64, Kitayama et al. further discloses wherein the infrared reflective layer comprises from about 70 percent to 100 percent by weight of said organic radical cation compound and from 0 percent to about 30% by weight of an organic polymer.

6. Claims 9-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Oguchi et al. (U.S. Pat. 4,921,780A) in view of Mihara et al. (U.S. Pat. 5,482,822 A).

a) With respect to claim 9, Oguchi et al. discloses an optical recording medium and method thereof in Figures 1, 2, 3, 4 comprising of a reflective layer (organic thin film

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which have high reflectance) that is applied over a substrate (item 1), wherein the reflective layer (item 2) comprises a reflective organic free radical compound (i.e. comprising of hexafluoroarsenate in col. 4, line 61) (col.1, lines 62-66).

However, Oguchi et al. does not teach infrared region of 1250nm-1700nm. With the same field of endeavor, Mihara et al. discloses an infrared-absorptive compound and optical recording medium making use of the same with teaching of redical cation compound exhibits a reflectance in the infrared region from 1250 nm to 1700 nm (col. 136, lines 43-45).

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the optical device with radical cation compound such as disclosed by Oguchi et al., with redical cation compound exhibits a reflectance in the infrared region from 1250 nm to 1700 nm such as discloses by Mihara et al., for purpose of obtaining large absorbing infrared region.

b) With respect to claim 10, Oguchi et al. further discloses wherein the reflective layer is visibly transparent.

c) With respect to claims 11-18, Oguchi et al. further discloses wherein the reflective layer is opaque to optically reading the substrate at one or more infrared wavelengths; wherein the reflective layer is reflective at the one or more infrared wavelengths; wherein the reflective layer has greater than 10% reflectance at the one or more infrared wavelengths; wherein the reflective layer has greater than 20% reflectance at the one or more infrared wavelengths; wherein the reflective layer has greater than 30% reflectance at the one or more infrared wavelengths; wherein the one

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or more infrared wavelengths are in the infrared region of 700 to 2000 nm; wherein the one or more infrared wavelengths are in the infrared region of 2000 to 3000 nm; wherein the one or more infrared wavelengths are in the infrared region at wavelengths greater than 3000 nm.

d) With respect to claims 19-24, Oguchi et al. further discloses wherein the reflective layer is opaque to optically reading the substrate at one or more visible wavelengths; wherein the reflective layer is reflective at the one or more visible wavelengths; wherein the reflective layer has greater than 10% reflectance at the one or more visible wavelengths; wherein the reflective layer has greater than 20% reflectance at the one or more visible wavelengths; wherein the reflective layer has greater than 30% reflectance at the one or more visible wavelengths; wherein the one or more visible wavelengths are in the visible region of 580 to 700 nm.

e) With respect to claims 25-26, Oguchi et al. further discloses wherein the organic free radical compound is a salt of an organic radical cation; wherein the organic free radical compound is a salt of an aminium radical cation.

Allowable Subject Matter

7. Claims 29-40, 42-44 and 49-54 are allowed.

The reason for the indication of allowable subject matter is that (claim 29) a marking system comprising a reflective layer that is applied over a substrate, wherein the reflective layer comprises a reflective organic free radical compound; and wherein an image layer is applied in an imagewise pattern overlying the reflective layer, wherein the image layer comprises optically readable information; (claim 44) wherein

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an image layer applied in an imagewise pattern overlying the at least one of the one or more reflective layers, the image layer comprising optically readable information, is optically readable at the one or more infrared wavelengths when scanned from the side of the card stock on which the image layer was applied and is not optically readable at the one or more infrared wavelengths when scanned from the side of the card stock opposite from which the image layer was applied; (claim 49) wherein the method comprises a step (iii) of applying an image layer in an imagewise pattern over the reflective layer, wherein the image layer comprises optically readable information disclosed in the claims is not found in the prior art.

8. Claims 4, 5, 27, 28, 59 and 60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The reason for the indication of allowable subject matter is that (claim 4, 28, 59) wherein the organic radical cation compound is a salt of a tetrakis(phenyl)-1,4-benzenediamine radical cation; (claims 5, 28, 60) wherein said organic radical cation compound is a salt of a tris(phenyl)-1,4-benzenediamine radical cation disclosed in the claims is not found in the prior art.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (571) 272-2343. The examiner can normally be reached on Monday to Thursday from 8:30am to 6:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps, can be reached on (571) 272 - 2328. The fax number for this Group is (703) 872-9306.

tt

May 31, 2005


Hung Xuan Dang
Primary Examiner